

67

appearance, location, color, type, shape and functionality may be conceptually related to the module or system theme (such as image or shape).

In one particular example, the invention can be applied to control and automation, such as industrial control, robotics, factory automation and other similar applications, wherein the control is based on a sequence of events such as a finite state machine. For example, the system can be used as a substitute or a supplement to a PLC (Programmable Control Logic). Most control system involves programming language stored in software (or firmware) and executed by a processor in order to set (or program) or to execute the required set of controlling steps. One example is ladder logic or C language. Updating or changing such software requires skill and expertise, added to various programming tools, and thus expensive and complex to a lay person. Further, since the software is not directly visible, the programmed control steps are hidden to the user. The system according to the invention can be used to 'program' a process by connecting or attaching various modules, each associated with a different functionality of control step. Such system forming (as well as its modifications) is easy and intuitive, and does not require any expertise, skill or special tools. Further, the control steps involved are apparent by the type of modules used and their location in the system and in respect to each other. The formed control system may be used for home entertainment and control applications such as smart lighting, temperature control, safety and security, for home awareness applications such as water sensing and control, power sensors, energy monitoring, smoke and fire detectors, smart appliances and access sensors, for commercial building automation such as energy monitoring, HVAC, lighting and access control, and for industrial applications such as process control, asset management, environmental management, and industrial automation.

All publications, patents, and patent applications cited in this specifications are herein incorporated by reference as if each individual publication, patent, or patent application were specifically and individually indicated to be incorporated by reference and set forth in its entirety herein.

Throughout the description and claims this specifications the word "comprise" and variations of that word such as "comprises" and "comprising", are not intended to exclude other additives, components, integers or steps.

Those of skill in the art will understand that the various illustrative logical blocks, modules and circuits described in connection with the embodiments disclosed herein may be implemented in any number of ways including electronic hardware, computer software, or combinations of both. The various illustrative components, blocks, modules and circuits have been described generally in terms of their functionality. Whether the functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Skilled artisans recognize the interchangeability of hardware and software under these circumstances, and how best to implement the described functionality for each particular application.

Although exemplary embodiments of the present invention have been described, this should not be construed to limit the scope of the appended claims. Those skilled in the art will understand that modifications may be made to the described embodiments. Moreover, to those skilled in the various arts, the invention itself herein will suggest solutions to other tasks and adaptations for other applications. It is therefore desired that the present embodiments be considered in all respects as illustrative and not restrictive, refer-

68

ence being made to the appended claims rather than the foregoing description to indicate the scope of the invention.

It will be appreciated that the aforementioned features and advantages are presented solely by way of example. Accordingly, the foregoing should not be construed or interpreted to constitute, in any way, an exhaustive enumeration of features and advantages of embodiments of the present invention.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.

The invention claimed is:

1. A first device for electrically connecting and detachably attaching to a second device identical to the first device, the first device having first and second ends and comprising:
 - a first electromechanical connector at the first end;
 - a second electromechanical connector at the second end of the first device, the second electromechanical connector being physically structured to be electrically connectable and detachably mechanically couplable to a first electromechanical connector of the second device; and
 - an annunciator adapted to perform a module-specific task coupled to be electrically Direct Current (DC) powered from the first electromechanical connector of the first device and coupled to be activated in response to a signal received from one of the electromechanical connectors of the first device,
- wherein at least part of the DC power received from the first electromechanical connector of the first device is passed to the second electromechanical connector of the first device, and wherein the first device is configured to pass bi-directional digital data between the electromechanical connectors of the first device,
- whereby, when the first device is mechanically connected to the second device, DC power and bi-directional digital data are passed by the respective electromechanical connectors between the connected devices.
2. A modular game set apparatus comprising the first devices according to claim 1, in combination with the identical second device.
3. The device according to claim 1, wherein the second end of the first device is opposite to the first end of the first device, and the first electromechanical connector is opposite to the second electromechanical connector.
4. The device according to claim 1, further comprising a wheel for supporting the device.
5. The device according to claim 1, further comprising a delay circuit having an input coupled to one of the electromechanical connectors of the first device, the delay circuit having an output, and wherein the annunciator is coupled to the output of the delay circuit.
6. The device according to claim 1, wherein the second electromechanical connector of the first device comprises a male connector and the first electromechanical connector of the second device comprises a female connector.
7. The device according to claim 1, wherein the module-specific task is to perform a physical movement.
8. The device according to claim 1, wherein the module-specific task is to emit visible light and the annunciator comprises a visible light emitter.